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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/982,912 | 10/22/2001 | Rainer Kuth | 2000P13284 | 8529 |

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YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

LAVIN, CHRISTOPHER L

ART UNIT PAPER NUMBER

2621

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,912

Applicant(s)

KUTH, RAINER

Examiner

Christopher L Lavin

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7 - 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7 - 12 is/are rejected.
- 7) ☒ Claim(s) 8 - 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 8 – 12 are objected to because of the following informalities:
3. In regards to claim 8, the claim refers to “claim 1” when it should refer to “claim 7”.
4. In regards to claim 9, the claim refers to “claim 1 or 2” when it should refer to “claim 7 or 8”.
5. In regards to claim 10, the claim refers to “claim 3” when it should refer to “claim 9”.
6. In regards to claims 11 and 12, the claims refer to “claims 1 to 4” when they should refer to “claims 7 to 10”.
7. Appropriate correction is required.
8. Claims 11 and 12 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. In this case claims 11 and 12 depend from claim 9 which is multiply dependent. See MPEP § 608.01(n). Accordingly, the claims 11 and 12 not been further treated on the merits.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 7 – 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bohning (4,855,910).

11. In regards to claim 7, Bohning discloses in the paragraph starting at column 4, line 15 a device that sorts periodic data records (cardiac time, respiratory time, and NMR data). Further in the same paragraph Bohning discloses a measuring device (NMR scanner) and an evaluation device (“the C-A-R phase marker data are uploaded from the microcomputer to the minicomputer [...] for use in cardio-respiratory plane clustering of the image data”). The minicomputer stores the data records. Bohning discloses in the paragraph starting at column 4, line 45 that an r-wave, a line of the moving part, is used to sort the cyclic data. As further shown in the same paragraph the difference between the data records is used to sort the records into “time bins”. The information is then formed into a cyclic sequence.

12. In regards to claim 8, Bohning discloses in the paragraph starting at column 3, line 31 that the sorted data can then be used to form a film showing the changes in the heart over a cycle.

13. In regards to claim 9, Bohning discloses in the paragraph starting at column 4, line 15 and further shown in figure 1 that the a periodic waveform (ECG) is provided by an input device into the microcomputer.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bohning in view of Gaarder (3,575,162).

17. In regards to claim 10, Bohning as shown above in the rejection of claim 9 discloses a device for sorting cyclic motion images. Bohning further discloses in the paragraph starting at column 3, line 10 that the device is used to monitor the human heart. Bohning however does not specifically state the waveforms used for sorting the data records are triangular, rectangular or sinusoidal.

18. Gaarder teaches in the paragraph starting at column 5, line 9 that a heart pulse can be read in as a sinusoidal waveform.

19. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to use a sinusoidal waveform based on the ECG signal to sort the data records. A sinusoid is one of the classic cyclic waveforms. There are many equations that have been developed over the years that make dealing with such a waveform extremely easy. So sorting the cyclic data based on a sinusoid would be easy and efficient.

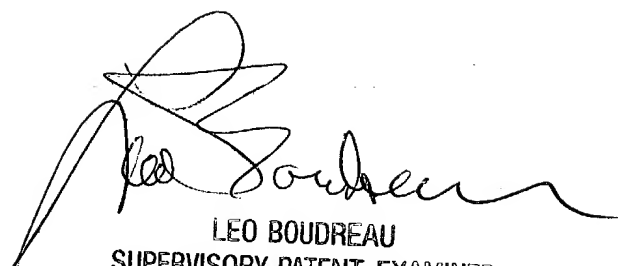
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L Lavin whose telephone number is 703-306-4220. The examiner can normally be reached on M - F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLL



LEO BOUDREAU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600